

CLAIMS

1. A method of correcting frequency errors occurring in a multipath input signal of a receiver of a mobile radio terminal, the method using one of three different
5 frequency error processing modes, respectively a processing mode with no frequency error correction, an open-loop processing mode for coarse frequency error correction, and a closed-loop processing mode for fine frequency error correction, the frequency error
10 processing mode being selected by a central control unit as a function both of the value of the frequency error and of a quality factor determined by a quality control unit of a channel coefficient filter.
2. A method according to claim 1, including a preliminary
15 step of estimating the frequency error occurring in the multipath input signal from the impulse response of the propagation channel of said input signal, said frequency error being estimated by way of a phase error estimate.
3. A method according to claim 2, wherein the phase error
20 caused by the frequency error is estimated on the most powerful path.
4. A method according to claim 2, wherein the frequency
25 error is estimated with a variable period.
5. A method according to claim 2, wherein the estimated
frequency error is filtered in accordance with a
30 plurality of frequency error estimates to obtain an averaged frequency error.
6. A method according to claim 1, wherein the quality
factor is used to monitor the efficacy of channel
35 coefficient filtering.
7. A method according to claim 6, wherein the quality

factor is determined as a function of a signal-to-interference ratio.

- 5 8. A device for correcting frequency errors occurring in a multipath input signal of a receiver of a mobile radio terminal able to communicate with a remote sender via a propagation channel, the device comprising a central control unit adapted to use three different frequency error processing modes, respectively a processing mode
 - 10 with no frequency error correction, an open-loop processing mode for coarse frequency error correction, and a closed-loop processing mode for fine frequency error correction, the frequency error processing mode being selected by a central control unit as a function
 - 15 both of the value of the frequency error and of a quality factor determined by a quality control unit of a channel coefficient filter.
 - 20 9. A device according to claim 8, further comprising a frequency error estimator associated with a frequency error estimate filter to supply the frequency error value to the central control unit.
 - 25 10. A device according to claim 8, further comprising, for effecting the coarse frequency error correction, both a channel estimate corrector adapted to supply the channel filter with an impulse response of the propagation channel free of the frequency error and a propagation channel impulse response processor adapted to
 - 30 reintroduce the frequency error into the filtered propagation channel impulse response.
 - 35 11. A device according to claim 8, further comprising, for fine frequency error correction, a closed loop consisting of an averaged frequency error filter associated with a frequency corrector which receives as input the multipath signal and supplies as output a

multipath signal free of the frequency error.